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ABSTRACT

This correlational field study examined the relationships between personality traits, leader behaviors, and leader effectiveness. The study took place at the United States Air Force Academy, and the subjects were the eighty cadet squadron commanders in position during the 1993-1994 academic year. Additionally, this research analyzed the effect of the leadership training currently given to the cadet commanders. The results of the study showed that all of the behaviors and a few of the traits were significantly correlated with leader effectiveness. The correlations between leader personality and behavior were also much lower than expected. In some cases, results were difficult to interpret due to problems in the measurement of traits, behaviors, and effectiveness. The leadership training proved to be largely ineffective in terms of enhancing the behaviors known to be correlated with leader effectiveness.

CHAPTER I

Introduction

The battle between trait and behavior theorists concerning leadership effectiveness has a long and distinguished history. Perhaps there is no better example of this ongoing controversy than the debate over the predictive superiority of personality traits or specific leader behaviors for predicting leadership effectiveness criteria. Although the literature supports the validity of both predictors, it seems apparent that examining the interactions between personality and behavior would account for more variance in leader effectiveness. During the past three decades, research on leader traits was slowed as a result of Mann (1959) and Stogdill's (1948) reviews and their subsequent misinterpretation by researchers, which resulted in a negative perspective on trait research (Lord, DeVader, & Alliger, 1986; Yukl, 1981). Recent reviews by Yukl (1989) and Bass (1990), however, found much more supportive evidence for the predictive validity of personality traits with respect to leader effectiveness.

The timeliness of this study is evident from recent and ongoing changes in the nature of work and the workplace (Howard & Bray, 1988; Offerman & Gowing, 1990). As organizations continue to streamline operations by collapsing levels of management, an even greater emphasis is being placed on leadership effectiveness in order to insure organizational survival (Lillibridge & Williams, 1992). Many researchers and practitioners alike have expressed confidence in various leadership training programs for increasing leader effectiveness (Conger, 1992; Kouzes & Posner, 1987; Yukl, 1989). Others have suggested that screening potential leaders for personality dimensions

correlated with successful leadership is the most practical and effective way to insure leader success (Hogan et al., in press). Yukl (1989) argued that a combined approach to the examination of the antecedents of leadership effectiveness will provide a more profitable line of inquiry.

The setting for the present study is the USAF Academy where the cultural philosophy underlying leader effectiveness, subordinate training/indoctrination, and military performance is well documented. According to Schein (1990), "culture is what a group learns over a period of time as that group solves its problems of survival in an external environment and its problems of internal integration." The strength of the consistency of this culture is said to be a function of the length of time the group has existed, the intensity of the learning experiences the group has faced, the methods and means of learning within the group, and commonness of the underlying assumptions (e.g. leader-based, centralized control is the best way to lead) held by the leaders of the organization (Schein, 1990). The Air Force Academy adopted many of the training philosophies and traditions from her sister academy, West Point. As a result, the policies of the "class system" used, not only as a right of passage, but as a means of indoctrinating young cadets about the ways of military life, have enjoyed a long history of tradition and acceptance. As Schein points out:

> Once a group has learned to hold common assumptions, the resulting automatic patterns of perceiving, thinking, feeling, and behaving provide meaning, stability, and comfort; the anxiety that results from the inability to understand or predict events happening around the group is reduced by the shared learning. The strength and tenacity of culture derive, in part, from this anxiety-

reduction function. (Schein, 1990 p.111)

Certainly, the Academy maintains a deeply embedded cultural attitude as a result of commonly held assumptions about the correct way to train and to lead. Cadet commanders fear taking charge and delegating authority due to the perceived (and sometimes actual) negative consequences of making mistakes. Cadet commanders often feel that using a directive, autocratic leadership style will make it easier to maintain control of all facets of squadron activity to insure that things are done in accordance with their direction. Unfortunately, this control is neither effective, nor does it develop competent leader skills. According to Banas, 1988, one of the obstacles for empowering subordinates is the leader's fear that such a strategy will undermine his/her power. Some leaders cling to their position power at the expense of subordinate development and their own effectiveness as leaders. This type of micro-managerial style is frequently used by the inexperienced cadet commanders, resulting in subordinate resentment and demotivation. Clearly, this outcome is not the goal of the US Air Force Academy leadership training program. The intent of the program is to develop competent leaders who will successfully fill command positions in the operational Air Force after their commissioning as officers.

Until recently, most of the officers in charge of training at the Academy were reluctant to change the cadet leadership culture. Many of these officers were assigned as Air Officers Commanding (AOC) of various cadet squadrons. The AOC's job is to be a role model for the cadets in his/her squadron, and to provide guidance and support for the

cadet command structure within the squadron. Unfortunately, many of these officers were more concerned with promotion to the next rank and with staying out of "trouble." These attitudes led to an authoritarian leadership style by many of the AOCs which not only robbed the cadet commanders of the opportunity to lead, but also gave cadets the impression that centralized control was the "approved" Air Force style of leadership. For years, subordinate cadets at the Academy were subjected to negative leadership tactics in the form of yelling, meaningless intimidation, punishment, and generally poor role modeling by upper class cadets.

In recent years, however, changes in thinking at the highest levels in the military have prompted a closer examination of cadet leadership culture and training. Changes which are being cautiously implemented will aid in permanently changing the cadet leadership culture. To change the cadet leadership culture at the Academy it is necessary to introduce the cadet leaders to more effective and beneficial methods of leading, training, and indoctrinating subordinate cadets. Blake and Potter (1992) found that leadership training at the U.S. Coast Guard Academy was largely ineffective due to the culture of the institution, which supported using behaviors diametrically opposed to those being trained during midshipman indoctrination. Simply training cadet leaders to understand concepts such as positive reinforcement, delegation, team-building, role modeling, fostering a supportive climate, etc. will be inadequate to change the institution's culture, especially if cadets are not held accountable for engaging in the behaviors. In addition, the effects of behavior modeling can be negative if the officers in charge are allowing cadets in leadership positions to engage in behaviors that are

antithetical to effective leadership. Clearly, the leaders must understand and accept the benefits of leadership behavior training, but they must also express this change in philosophy to their subordinate commanders and solicit their support for the change as well. It is here that specific leader behaviors, such as inspirational-visionary appeals, encouraging innovative thinking, fostering a supportive, developmental climate, team-building, and delegation become necessary. If the leader communicates the vision of sharing leadership and its potential benefits in terms of subsequent squadron performance and gives the necessary creative license and authority to subordinates, then the cadet leadership culture of that squadron should change. In this sense, leadership can be said to be the catalyst for cultural change within the organization.

Officers in charge of cadet leadership development are working hard to implement programs to facilitate the change in cadet leadership style and effectiveness. Much of the leadership training focuses on the behavior categories identified by Yukl (1987) as being related to leader effectiveness. These leader development programs provide fertile ground for assessing the effectiveness of leader behavior training.

Oddly, the leadership and training literature offers little information about or systematic evaluation of the role that personality plays in leadership training. With a growing emphasis on organizational leadership training, it seems that investigating these links would be quite beneficial. If, for example, a clear, interactive relationship can be demonstrated between certain personality dimensions and subsequent success with leadership training (measured in terms of organizational performance and ratings of leader effectiveness), then personality can be used to help select cadets with the greatest

leadership potential.

The current research seeks to integrate personality and behavioral approaches to leadership effectiveness in order to gain insight into the interactive nature of the two types of predictor variables. In pursuit of this goal, various personality traits were examined to determine their usefulness as predictors of leader effectiveness. In addition, the impact of providing specific leadership behavior training on subordinates' perceptions of leader effectiveness was examined.

Finally, prior research (see Yukl, 1994) suggests that certain personality traits are predictive of specific leadership behaviors, as well as leader effectiveness. My research seeks to further clarify the relationships between personality, leader behavior, and effectiveness.

CHAPTER II

Selected Review of the Literature

Review of Research on Effective Leader Behavior

The behavioral approach to the study of leadership focuses on what leaders do in terms of the behaviors they use. Additionally, the behavioral approach examines the relationship between specific behaviors and measures of leadership effectiveness (Yukl, 1994). Research conducted over the last 30 years has been heavily influenced by the famous Ohio State and University of Michigan leadership studies (Yukl, 1989). The Ohio State University research focused on two dimensions of leader behavior known as consideration and initiating structure. Consideration essentially describes the extent to which a leader shows concern for the feelings and welfare of subordinates. Initiating structure describes the extent to which a leader initiates activity for the group and clarifies the way the work should be carried out. The University of Michigan studies classified leader behavior into three content domains known widely as task-oriented behavior, relationship-oriented behavior, and participative leadership. Participative leadership refers to a leader's willingness to accept input from subordinates during decision-making. During the time since these studies were completed, a few behavior taxonomies have been developed that include a larger number of more specific behaviors. Although these classic approaches to leadership effectiveness remain popular today, research reviews have highlighted several limitations associated with the behavioral questionnaire studies used to test the models (Yukl, 1989). These limitations include several types of bias and

error such as the use of ambiguous terms that are subject to differences in interpretation by different respondents. Another limitation is response bias where a respondent answers each item in a similar fashion regardless of real differences in the actual behavior simply be he/she likes or dislikes the leader (Schriesheim, Kinicki, & Schriesheim, 1979). Response choices may be influenced also by stereotypes and implicit theories of leadership (Eden & Leviatan, 1975; Rush, Thomas & Lord, 1977). Lastly, some respondents may attribute desirable behavior to a leader who they perceive as effective even though the behaviors may not have actually been observed (Green & Mitchell, 1979). A potential shortcoming of broadly defined categories of behavior such as consideration and initiating structure is that they can mask subtle differences in the behaviors important for leader effectiveness. Without adequately exploring the variance accounted for by specific leader behaviors, it is difficult to accurately pinpoint which behaviors account for variance in leadership effectiveness in any given situation.

Several studies have examined the impact of specific leader behaviors on perceptions of leader effectiveness in a military setting. The results of these studies show that some specific leader behaviors are related to effectiveness, and in some cases these behaviors can be enhanced with proper training (Blake & Potter, 1992; Curphy, 1992; Yukl & VanFleet, 1982). These behaviors include, but are not limited to delegation, planning and organizing, conflict management, supporting, motivating and inspiring, and informing.

Yukl (1994) developed a taxonomy outlining specific behaviors related to leader effectiveness. The model includes 14 middle-range categories of behavior. A list of the

behavior categories and their definitions can be found at Table 1. The behaviors are relevant for leader effectiveness in nearly any situation, although each behavior differs in importance based on the situation. The behaviors interact in determining leader effectiveness.

Identifying the behaviors relevant for leader effectiveness is difficult, because the USAF Academy is a unique place. An exploratory situational analysis was conducted to determine which of Yukl's behaviors were most relevant for cadet leaders. The situational analysis was aided by my personal experiences at the Academy in various positions such as Chief of Cadet Leadership Development Programs, Instructor of Professional Military Studies, Associate Air Officer Commanding of Cadet Squadron 20, and as Assistant Head Baseball Coach for the varsity team. These experiences allowed me to interact with the cadets in a variety of circumstances, providing a unique perspective on what behaviors are critical for them as cadet leaders. As a result of the analysis, six of Yukl's 14 behaviors were chosen as the focus of this study. These six behaviors include supporting, managing conflict/team-building, motivating/inspiring, delegating, informing, and planning/organizing. The relevance of these behaviors will be explained in the rationale for the behavior hypotheses.

Beyond choosing relevant behaviors for examination, another significant dilemma facing leadership researchers has been in determining who is the best source of behavior information. Some researchers use leader self-reports whereas other researchers prefer to use leader behavior descriptions provided by subordinates, peers, or external observers. The argument for using self-reports is that leaders are the best source of information

about their own behavior, while subordinates or peers are not always in a position to observe the leader. Presumably, use of self-reports will avoid inaccurate attributions, projection, and stereotyping. However, self-report measures of leader behavior are susceptible to self-serving bias.

Research conducted by David Campbell at the Center for Creative Leadership (Campbell, 1994) examined the differences between self versus others' ratings of leader behaviors. His findings are similar to those of Podsakoff and Organ (1986) who found that self-ratings contain errors such as (1) consistency motif, (2) common method variance, and (3) social desirability. In his review piece, Thornton (1980) demonstrated that self-ratings of behavior are generally higher than observer ratings. Campbell's research supports this conclusion as well. Unlike Thornton, however, Campbell's results show somewhat of a hierarchy effect in that the higher a person advances within an organization, the greater the discrepancy between the self- and observer ratings.

In order to maximize the validity of their results, recent studies have included behavior measures from multiple sources such as peers, superiors and subordinates (see Bass & Yammarino, 1991; Kim & Yukl, 1994; Tsui & Ohlott, 1988). Behavior descriptions from multiple ratings can be averaged thus producing a more valid composite score in cases when a leader behaves the same toward each subordinate. However, if a leader treats each subordinate differently, averaged ratings will decrease the accuracy of the composite score.

Hypotheses Linking Specific Leader Behaviors to Effectiveness

Hypothesis 1: Supportive behavior is positively correlated with leader effectiveness.

Supporting actually includes several behaviors that a leader uses to show concern for his/her subordinates' needs and feelings. Supporting is central to the concept of consideration as defined by the Ohio State Leadership Studies, (Fleishman, 1953; Stogdill, 1974), as well as being the cornerstone of supportive leadership behavior discussed by Bowers and Seashore (1966) and House and Mitchell (1974). It seems apparent that anyone occupying a leadership role must build successful interpersonal relationships. In fact, research conducted by the Center for Creative Leadership (CCL) to identify factors that caused managers to derail found that those weaker in interpersonal skills were more likely to derail (McCall & Lombardo, 1983; Lombardo & McCauley, 1988). Conversely, those who are skilled in interpersonal relationships will be more likely to succeed. Leaders using supporting behavior will be more likely to build trust, friendships and loyalties with their subordinates making it somewhat easier to solicit their support and cooperation to get things done.

Another benefit of supportive behavior is that is tends to increase subordinate job satisfaction. Fisher and Edwards (1988) used a meta-analytic technique to condense the findings of a large number of studies that examined the effects of consideration. Among their conclusions was that subordinates of supportive leaders were generally more satisfied with both the job and the leader. Similar results were found for the effect of supportive behavior on subordinate stress reduction.

Yukl (1994) outlined several ways that a leader can use supportive behaviors effectively with subordinates. These include: (1) showing acceptance and positive regard, (2) being polite and diplomatic, not arrogant and rude, (3) bolstering the

subordinate's self-esteem, (4) providing assistance with the work when needed, and (5) being willing to help with personal problems.

The Academy is, by design, a difficult environment in which to function. Many challenges face the cadets each day as they struggle to maintain their academic performance, in addition to their military and athletic taskings. As a result, the stress level is understandably high. A squadron commander who is able to balance his or her concern for successful task completion and concern for people is more likely to be viewed as a better leader. For example, a squadron commander is likely to be seen as effective if he/she gets personally involved in helping a subordinate that is confronted with a personal problem. Conversely, if commanders are solely concerned with staying out of trouble and getting the job done at the expense of interpersonal involvement with subordinates, the results can be quite negative.

Supporting behaviors are likely to be used if cadets in the squadron have received a tasking from the AOC that is unpopular. The cadet squadron commander will often listen to the various complaints and arguments against the policy, and will then discuss the disagreements with the AOC. Another example might be that a cadet or group of cadets within the squadron fails to win an intramural athletic contest that was key essential for winning Squadron of the Month honors. Rather than being harsh or judgmental the squadron commander talks to cadets who are upset in order to show sympathy and raise their level of self-esteem. This behavior shows the compassionate side of the squadron commander and provides an opportunity to demonstrate concern for people, as well as the task.

Hypothesis 2: Conflict Management/Team-Building behavior is positively correlated with leader effectiveness.

According to Yukl (1994, p. 137) "The primary purpose of conflict management behaviors is to build and maintain cooperative working relationships with subordinates, peers, superiors, and outsiders. The primary purpose of team-building behaviors is to build a cohesive work unit with strong member identification and a high degree of mutual cooperation." Literature in organizational development (Dyer, 1977), in conflict management (Brown, 1983; Robbins, 1974), and in cohesiveness and teamwork (Hackman, 1990; Hackman & Morris, 1975) highlights the significance of team building, as well as successful resolution of work-group conflicts.

Team-building can be seen as group maintenance behavior to improve interpersonal relationships, help in resolving conflicts, aid in subordinates' development of a sense of belongingness to the organization, and increase a feeling of group cohesiveness (Yukl, 1989). Boyatzis (1982) conducted research to determine traits and skills of effective leaders and identified nine common leader competencies. One of these nine competencies was what he termed "managing group process." The meaning of this term is enhancing follower identification and esprit de corps by creating symbols of group identity, emphasizing common interests and need for collaboration, facilitating successful teamwork, and providing public recognition of member contributions (Yukl, 1989).

Conflict is a natural byproduct of social interaction and can therefore be expected in any organization where people are working together. The way in which a leader deals

with conflict will help to determine if the conflict has positive or negative consequences for the organization. Effective leaders seem to have a greater capacity for dealing with interpersonal conflicts. Instead of abdicating responsibility to a superior, these energetic leaders make the time to rationally hear all sides of a conflict and devise a solution that benefits all of the involved parties, as well as the organization as a whole. These same leaders will attempt to rally support for the organization's cause by creating an environment that fosters pride in individual and unit accomplishment. If subordinates feel a sense of belongingness and can identify with the organization as a team-member, then motivation and satisfaction will generally increase (Yukl, 1989).

Previous research findings suggest that these behaviors are closely related to managerial effectiveness (Bass, 1990; Howard & Bray, 1990). Most managers are exposed to a wide variety of interpersonal challenges in addition to unrelenting demands of the job itself. Yukl (1989) describes the hectic, if not frantic pace at which managers must operate. He also describes the difficulties encountered when important decisions must be made without adequate information, time, and with incompatible needs and desires of the parties involved. As a result, calm, non-impulsive conflict management skills must be used along with confident, focused problem solving techniques. Leaders must be capable of dealing with the often chaotic pace and demands of their job with poise, confidence, tireless dedication, and a keen sensitivity to subordinate needs and desires.

The cadets in each squadron live together and interact on an almost continuous basis. Each cadet brings unique values, morals, ambitions, and dreams to the Academy,

and when these are inconsistent, conflicts will occur. A commander who is skilled at conflict management behaviors will be more likely to maintain harmony and morale in the face of these inevitable conflicts that occur. Similarly, building a sense of teamwork and synergistic thinking will not only increase the quality of decisions, but will also serve to increase subordinate acceptance of the decisions. Ownership of squadron decisions will likely result in increased group performance and a general sense of satisfaction with the decision making process.

More conflict management behavior is needed when there is hostility and distrust between groups or between individuals. For instance, if the squadron is tasked with a large project that requires substantial effort and the varsity athletes cannot participate due to their practice and contest schedule then the squadron commander must step-in to handle any bitterness that may develop. Often, the varsity athletes in the squadron are perceived to receive preferential treatment. This perception, and the feelings of hostility that sometimes develop can easily be inflamed by such an incident. It is the squadron commander's job to squelch this animosity by showing cadets the "big picture" of USAF Academy life. The commander may encourage cadets to support and take pride in the varsity athletes from their squadron. In this way, the cadets are able to share, albeit vicariously, the excitement and pride of being a part of one of the elite varsity teams at the Academy. The squadron commander may also require varsity athletes to help on the project or pick-up additional responsibilities during their off-time, which would lighten the burden on those cadets required to participate on the project full-time. An effective squadron commander will build-up the squadron as a team, while also dealing with the

inevitable conflicting demands and desires that are inherent in any group.

Hypothesis 3: Motivating/Inspiring behavior is positively correlated with leader effectiveness.

The literature on transactional, transformational and charismatic leadership frequently refers to a leader's use of motivating and inspiring behaviors. Much of the research on charismatic leadership used the Multi-factor Leadership Questionnaire (MLQ) to measure various behaviors associated with transformational and transaction leadership (Bass, 1985). Many studies have been conducted to assess how the specific leader behaviors described by subordinates on the MLQ are related to various criteria of leader effectiveness (Avolio & Howell, 1992; Bass, Avolio, & Goodheim, 1987; Hater & Bass, 1988; Seltzer & Bass, 1990; Waldman, Bass & Einstein, 1987; Waldman, Bass & Yammarino, 1990; Yammarino & Bass, 1990). The results of the research show that effective leaders use motivating/inspiring behaviors, along with a mix of other transformational and transactional behaviors.

In Tichy & Devanna's (1986) research on transformational leaders, they describe the importance of the leader's "vision" in orchestrating organizational change. They point out that for a vision to be effective, it must motivate subordinates by increasing their self-esteem and providing them with a common purpose. A common theme found in research conducted by Bennis and Nanus (1985) on charismatic leaders was their ability to "move followers to higher degrees of consciousness, such as liberty, freedom, justice, and self-actualization" (Bennis & Nanus, 1985, p. 218). In fact, one of the reported benefits of establishing a vision is to inspire subordinates by giving their work a sense of meaning

while also appealing to their basic desire to feel important and to be associated with a purposeful endeavor (Yukl, 1994).

Yukl (1994) argues that the behaviors associated with self-confidence, such as motivating and inspiring, are often responsible for perceptions of leader effectiveness. For example, leaders that have a high level of self-confidence will likely take risks and challenge the status quo more often than their peers. These leaders will also be more apt to set difficult and challenging goals for themselves and their subordinates and express confidence that subordinates can attain them.

In a related line of research, several studies demonstrated the impact of the Pygmalion effect on whole group, as well as individual performance (Crawford, Thomas, & Fink, 1980; Dusek, Hall & Meyer, 1985; Eden, 1988, 1990: Eden & Ravid, 1982; Eden & Shani, 1982; Rosenthal, 1985; Rosenthal & Jacobson, 1968). The findings of Eden's (1990) study have implications for the current research. For example, as a means of motivating subordinates through developing their potential, leaders must not only believe in their subordinates' capabilities, but must also encourage these same followers to believe in themselves.

Motivating and inspiring behaviors are used quite frequently at the Academy. The squadron commander may call for allegiance to the Academy, the Air Force, or even the United States as a motivational tool in eliciting extraordinary performance and effort from the cadets. Frequently, squadron commanders will arrange for the showing of videos of Air Force fighter jets in air-to-air combat to get the cadets excited about their future. This tactic is often used before cadets are asked to work very hard on some task

or project. The scenes in the film tend to help the cadets concentrate on the end goal as opposed to worrying about the effort required of them at the time.

Hypothesis 4: Planning/Organizing behavior is positively correlated with leader effectiveness.

Yukl (1994, p. 80) states that "planning and organizing means deciding what to do, how to do it, who will do it, and when it will be done. The purpose of planning and organizing is to ensure efficient organization of the work unit, coordination of activities, effective utilization of resources, and adaptation to a changing environment." A leader must develop a strategy for accomplishing his/her goals, as well as the goals of the organization.

The idea that planning and organizing is important for effective leadership has long been recognized and cited in the leadership literature (Carroll & Gillen, 1987; Drucker, 1974; Fayol, 1949; Urwick, 1952). More recently, questionnaire studies have showed a significant relationship between leader effectiveness and planning behaviors (Carroll & Gillen, 1987; Morse & Wagner, 1978; Shipper & Wilson, 1992; Yukl, Wall & Lepsinger, 1990).

Several reasons exist for the relationship between planning and effectiveness. For example, planning can highlight new and better means to accomplish some task or goal. Additionally, planning can provide a road map that helps to alleviate delays caused by missing an important step in the process or unnecessarily retarding progress. Planning also makes it much easier to monitor progress toward an objective. Planning allows for goals to be articulated, milestones to be chosen, and an action plan created to guide the

group toward completion of the task. Lastly, planning allows for systematic delegation as well as coordination among all players in the organization.

Yukl (1994) suggests several guidelines for planning which include (1) identifying necessary action steps, (2) identifying the optimal sequence of action steps, (3) estimating the time needed to carry out each action step, (4) determining starting times and deadlines for each action step, (5) estimating the cost of each action step, (6) determining accountability for each action step, (7) developing procedures for monitoring progress and (8) consulting with others to coordinate plans.

As squadron commanders continue to hone their planning/organizing skills during the semester, it is probable that the subordinate cadets feel more comfortable that things will get done on time and in their proper sequence. This can serve to help the subordinates plan their own time more effectively, thus giving them a better sense of control over their own lives. Additionally, if the squadron is organized by the squadron commander, it is likely that the squadron will perform more effectively and efficiently. In fact, it may be rather inane to propose that cadet commanders can adequately run their squadrons without proper use of planning and organizing behaviors. If the commanders had a year in the leadership role, I believe they would have developed even more of the planning/organizing skills that are associated with effective leader behavior.

Planning and organizing behaviors are critical to a squadron commander's ability to lead effectively. Due to the great variety of tasks previously alluded to, commanders must be able to plan and organize their time, as well as the time of their subordinates in some cases. The sheer volume of administrative duties facing each cadet squadron

commander requires time management skills in addition to an ability to see two to three months into the semester. Bear in mind that these cadets must also maintain their GPA and MPA in order to remain in their position of command. In order to juggle academics, athletics, and the increased burden of command, planning and organizing are a must.

Hypothesis 5: Delegating behavior is positively correlated with leader effectiveness.

Delegating behavior is often used to increase acceptance of decisions, as well as to improve or maximize decision quality. Descriptive research shows that effective leaders tend to use more delegating behavior (Bradford & Cohen, 1984; Kanter, 1983; Kouzes & Posner, 1987; Peters & Austin, 1985; Peters & Waterman, 1982). Delegation also empowers subordinates thus enriching their work experience and developing their decision making skills. Leaders often use delegating behaviors when overburdened with excessive responsibilities. Delegation can help to create greater subordinate commitment to policy decisions made at higher levels while also helping leaders maximize the individual talents of their subordinates. In this sense, delegation serves to enrich the jobs of subordinates which will likely have a positive impact on their perceptions of the meaningfulness and challenge of their work.

Even though the potential advantages of delegation are many, there are a number of reasons why leaders fail to engage in these behaviors. Many leaders lack confidence in their subordinates, holding to the old adage, "If you want it done right, you've got to do it yourself" (Yukl, 1994). Similarly, many leaders fear accepting accountability for their subordinates' mistakes. Another potential problem is a leader's strong desire to hold power over subordinates and control all aspects of their work which may be an indication

of leader insecurity.

Most cadets are high performers and are achievement oriented to some degree. If a squadron commander shows confidence in subordinates by giving them the autonomy necessary to get the job done without interference, then those subordinates are likely to be much happier and satisfied. It is rare to find cadet leaders that are willing to relinquish control of authority, however, when they do, the results are quite positive.

Delegation is a necessity for squadron commanders, who run the day-to-day operations of the organization and are responsible for a vast number of administrative duties. The squadrons are organized so that subordinates are available to perform many of these tasks. Whether the commanders take advantage of the opportunity to delegate responsibility to subordinates is up to them. For example, an AOC may task the squadron to prepare a Halloween party for local children in the community. An effective squadron commander will most likely give the project to a subordinate, ask for an action plan by a certain date, and then schedule a meeting to monitor the progress of the function. Some commanders, however, will try to handle too many tasks. These commanders frequently "burn-out" or fail to perform well. Cadets in subordinate positions enjoy being challenged, so a squadron commander should delegate the task and the necessary authority to accomplish it to subordinates in order to help them develop their skills and keep them satisfied.

Hypothesis 6: Informing behavior is positively correlated with leader effectiveness.

Informing is the process by which leaders communicate information to their subordinates that is needed to accomplish some task or function (Yukl, 1989). Informing

facilitates the work of others who depend on the leader for valid, critical information (Likert, 1967). Research conducted on crisis situations demonstrated that effective leaders used more informing behaviors to reduce anxiety and establish a common purpose for those involved (Torrance, 1954). Another function of informing is to pass along necessary information so that subordinates can make educated decisions, and when required, aid in decision making at higher levels in the organization. Mintzberg (1973) referred to a leader as a "nerve center" in the communication network of an organization. Accurate, timely processing and dissemination of information is critical to effective leadership.

Informing subordinates about policy changes can have a great impact on squadron performance. For example, if a new rule concerning squadron marching procedures is not disseminated to the squadron members, points will be deducted from the squadron during the next marching grading period. This penalty can have negative consequences as the squadrons compete against one another for awards and privileges. Without proper information, people cannot perform to the best of their abilities. Nobody likes to be surprised or embarrassed due to a lack of important information. If the squadron commander keeps subordinates properly informed about the happenings that effect them, they will likely be much happier and have higher morale.

Informing is a critical component of successful leadership for cadet squadron commander. Policies flow down from the highest levels in the Air Force down to the Academy senior officers, then down to the AOC and finally to the cadet leaders. Changes occur frequently and rapidly. In the cadet world, policy changes occur often,

and it is critical for cadet leaders to inform subordinates so that they are not operating on outdated directives. The squadron commander should hold periodic meetings to inform his/her squadron of changes and the implications for cadets. It is not uncommon for the squadron commander to give a list of important topics of interest to his/her executive officer. This list is then read aloud during the noon meal formation where all cadets in the squadron line up to march to lunch. Another example that occurs frequently is the squadron commander going to the AOC to report on the squadron's progress on goals, projects, etc. The squadron commander is the hub of the information wheel, and his/her skill in disseminating the information can be the difference between an effective or an ineffective squadron.

Review of Research on Leader Traits

Hogan (1991) argued that the meaning of personality can be viewed in two very different ways. The first concerns outsiders opinions and perspectives of a person. This is sometimes referred to as the person's social reputation and represents others' evaluation of that person (Hughes, Ginnett, & Curphy, 1993). Personality can also refer to the latent behavioral processes occurring within an individual, that are responsible for his/her outward behaviors (Digman, 1990; McCrae & Costa, 1985; Tellegen, 1985). For purposes of this study, the term personality will refer to these underlying processes and characteristics which may be said to cause people to act in certain ways.

The personality literature has provided scores of studies examining different personality traits and characteristics, and the list of terms defining these traits seems endless (see Bass, 1990; Burke & Day, 1986; Goldstein, 1992; Wexley & Latham, 1991).

Lord, DeVader and Alliger's (1986) review of trait studies encouraged researchers to reconsider the impact of personality on managerial effectiveness. Their results showed that there were significant relationships between personality traits and effectiveness. Similarly, Tett, Jackson, and Rothstein (1991) conducted a meta-analysis to determine the relationship between measures of personality and managerial effectiveness. Their results showed that the average correlations for personality predictors with performance criteria were .21. Research conducted by Bentz (1985, 1987, 1990) on executive selection at Sears demonstrated a link between leader effectiveness and personality dimensions as well.

Researchers have examined several personality traits and their relationships to leader effectiveness. Although the names given to the various traits change from study to study, the results have been reasonably stable across studies and research methods. Yukl (1994) has condensed the personality research findings into the most relevant categories of traits related to leader effectiveness. These categories include (1) self-confidence, (2) internal locus of control, (3) need for achievement, (4) emotional maturity, (5) need for power (socialized), (6) energy and stress tolerance, and (7) need for affiliation.

Hypotheses Linking Personality Traits with Leader Effectiveness Criteria

Hypothesis 7: Leader dominance is negatively correlated with leadership effectiveness.

Dominance is the extent to which a person enjoys controlling or influencing others. People scoring high on this trait tend to be assertive, self-confident, and may reject or avoid situations where they would be required to be in a follower role. Leaders

who score high on this scale tend to be skilled at social interaction and work hard to garner control over the groups in which they are a part (Curphy et. al., 1993). Dominant leaders tend to by dynamic, strong-willed, determined, forceful, free of self-doubt in pursuing their goals, and are usually not affected by the opinions or opposition of others (Curphy et. al., 1993). It is important to note that a person scoring extremely high on this scale may be indicative of narcissistic tendencies.

As defined in this research, dominance includes a desire to exercise power and control over subordinates and situations. Studies conducted by McClelland & Boyatzis, 1982; Howard & Bray, 1990; and Stahl, 1983, found that a strong need for power is related to advancement to higher levels of leadership within organizations. People with a high need for power like to influence others as well as events in their own lives. A strong need for power is very important especially in large bureaucratic organizations where leaders must influence subordinates, peers and superiors (Yukl, 1994). According to Miner (1985) someone who is unwilling or uncomfortable with behaviors related to influencing, negotiation, advocation of change, and assertive organization will probably not become a good leader.

Although it has been suggested that a need for power is important, it must be noted that the way this is manifest in the leader is also critical to effectiveness (McClelland & Burnham, 1976). Specifically, research has shown that a socialized power orientation is much more likely to result in effective leadership than is a personalized power orientation (McClelland & Burnham, 1976; McClelland & Boyatzis, 1982; Boyatzis, 1982; House, Spangler, & Woycke, 1991). There seem to be major

differences in the ways in which people with each type of orientation use power, although few studies have analyzed the specific behaviors associated with each orientation.

Leaders with a socialized power orientation are more concerned with the best interests of the organization and the people within it than they are with personal gain (Kirkpatrick & Locke, 1991). These leaders appear to be more emotionally mature, and use their power and influence to benefit others and the overall organization (Yukl, 1994). As a result of this orientation, they tend to use a participative, consultative leadership style rather than a coercive or autocratic style (Yukl, 1994). These leaders tend to "exercise power more for the benefit of others, are more hesitant about using power in a manipulative manner, are less egoistic and defensive, accumulate fewer material possessions, have a longer-range view, and are more willing to take advice from experts" (Yukl, 1989; p. 185). The fact that these leaders are more interested in the organization's success than there own may be why they tend to use a more participative style of leadership. These leaders "help make their subordinates feel strong and responsible, bind them less with petty rules, help produce a clear organizational structure, and create pride in belonging to the unit" (McClelland, 1975; p. 302). What this suggests is that a leader high in need for power (socialized) will utilize more consulting, delegating, supporting, informing, developing, motivating/inspiring, and conflict managing/team-building behaviors in order to accomplish task objectives while helping subordinates realize their full potential in a positive work environment.

Dominance may also be seen in high a high level of self-confidence. This confidence may cause a leader to make more influence attempts with his/her peers,

subordinates and superiors which may indicate a need for skill in inspiring/motivating and a moderate amount of consulting behaviors. In their review article, Kirkpatrick & Locke (1991) highlight research demonstrating that leaders who are self-confident will be persistent in the face of adversity, and will inspire their subordinates to reach the objectives in spite of challenges. Additionally, leaders who have higher expectations for themselves will more than likely have higher expectations for their subordinates (Kouzes & Posner, 1987). Higher leader expectations for followers may result in increased subordinate performance as a result of the pygmalion effect (Eden, 1988).

In their review and theory piece on personality and charismatic leadership, House and Howell (1992, p. 90) argue that effective leaders have high levels of self-confidence in addition to "...a high need for social influence coupled with a strong concern for the moral and nonexploitive use of power in a socially desirable manner; willingness to exercise influence but not to be dominant, tough, forceful, aggressive, or critical; strong inclinations to be confident in, and encouraging toward, followers and to show a developmental orientation toward followers..."

Subordinate cadets usually resent an autocratic, controlling commander. One possible reason for this reaction is that nearly all cadets are very competent people who value autonomy and recognition of their abilities. Commanders that are more inclined toward subordinate empowerment would probably fare better in terms of subordinate satisfaction and group performance.

Hypothesis 8: Leader sociability (need for affiliation) is negatively correlated with leadership effectiveness.

Sociability measures a person's outgoingness and tendency to have interpersonal contact with others. People scoring high on this trait tend to be gregarious, will usually initiate conversation, and generally enjoy being around others. It may be that most commanders feel they have little time to engage in social interaction with their subordinates. As previously mentioned, a balance between interpersonal relationships and successful task completion can be important for leader effectiveness. A very high score on this scale might indicate a strong predisposition for task completion/success as opposed to building personal relationships and commitment.

People who have a high need for affiliation are anxious to be accepted and liked by others. They prefer to work in cooperative situations and rarely like to upset another person by making a difficult or unpopular decision. Most studies that have examined this trait find that it has a negative relationship with leader effectiveness (Yukl, 1994).

The behaviors commonly associated with leaders high in need for affiliation provide insight regarding their overall ineffectiveness. Litwin & Stringer (1966) found that leaders high in need for affiliation were more concerned with building and maintaining relationships than with task oriented behaviors such as problem solving, planning, disciplining etc. These leaders will avoid confrontation by "smoothing" things over or simply ignoring the problem (Yukl, 1994). In addition, these leaders have great difficulty in making decisions that are in the organization's best interests while perhaps adversely affecting one group or person. The result seems to be workers who are confused, lack a sense of direction, and have very little idea where they stand in terms of performance and task requirements (McClelland & Burnham, 1976).

Leaders must have a balance between extremely high need for affiliation and extremely low need for affiliation, however. As research has shown, leaders with too high a need for affiliation will be largely ineffective, yet those with a low need for affiliation have their problems as well. For example, a leader who does not like to associate with others may be very poor at networking and politicking behaviors that can be an essential part of any leader's responsibilities. In addition, these leaders may tend to be somewhat reclusive, resulting in less than optimal developing, rewarding, disciplining and inspiring/motivating behaviors which are essential parts of an effective leader's functions.

Hypothesis 9: A leader's emotional stability (stress tolerance) is positively correlated with leadership effectiveness.

Emotional stability measures how a person reacts to stress and environmental pressures. Persons with higher scores tend to remain calm and analytical. They rarely are moody or engage in angry outbursts, as might be seen in someone scoring lower on this scale. Leaders that score high on this scale appear calm in the face of pressure and stress. In fact, they often perform better when placed in a high pressure situation.

High tolerance of stress refers to a leader's ability to remain calm in the face of adversity. People who rank high on this trait are able to focus on the decision at hand without being unduly distracted by competing pressures and conflicts. These people are able to focus on the issue at hand while simultaneously attending to the needs of the various parties that may be involved regardless of their potentially antagonistic desires. According to Yukl (1994, p. 264) "...a leader with high stress tolerance and composure is

more likely to stay calm and provide confident, decisive direction to subordinates in a crisis."

Hypothesis 10: Leader self-acceptance (emotional maturity) is positively correlated with leadership effectiveness.

Self-acceptance refers to the level of comfort the person has with him or herself. People that score high on this scale generally are accepting of criticism are rarely take disappointments as personal failures. Emotionally mature leaders are defined as having "an acute awareness of their strengths and weaknesses, and they are oriented toward self-improvement, instead of denying weaknesses and fantasizing success" (Yukl, 1994, p. 266). An emotionally mature leader is less susceptible to mood swings, angry outbursts, personalized power orientation, and is generally more self-controlled (Kirkpatrick & Locke, 1991). These leaders are quite comfortable with their abilities, they are familiar with the skill boundaries within which they must operate, and they are more likely to solicit and accept feedback in an effort to improve themselves (Curphy et. al., 1993). These leaders also seem to be more cooperative and supportive within their working relationships suggesting more use of consulting, supporting, and developing behaviors (Yukl, 1994).

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leaders seem to be more cooperative and supportive within their working relationships, suggesting more use of consulting, supporting, and developing behaviors (Yukl, 1994).

Several studies support the idea that emotional maturity is predictive of leadership success (see Bass, 1990). McCauley and Lombardo (1990) conducted a study to determine if a relationship existed between emotional maturity and leader advancement. The results showed that leaders who accurately judged themselves and had a desire to become more effective generally advanced further in the managerial hierarchy. Howard and Bray (1990) found that self-objectivity and adjustment were predictive of managerial advancement. Other studies such as those conducted by Bennis & Nanus (1985) and Tichy & Devanna (1986) suggest that leaders who have a strong desire for self-improvement and know their limitations and strengths will generally be more effective. Additionally, McClelland's (1975) research concerning socialized power concern provides further evidence that emotional maturity is a significant factor in effective leadership.

Hypothesis 11: A leader's achievement orientation is negatively correlated with leadership effectiveness.

Achievement orientation measures an individual's drive to accomplish things in order to enjoy a sense of self-fulfillment. This scale is similar to need for achievement. People scoring high on this trait generally are happier and more satisfied when they can complete a difficult or challenging task or establish a record for their accomplishment (Curphy et. al., 1993). Leaders with higher scores on this scale tend to be hard-workers, possess a strong work ethic, and are more comfortable in structured environments with

clearly outlined standards of performance (Curphy et. al., 1993). These leaders are also more consistent in making rewards and punishments contingent upon performance, set high performance goals for themselves and others, and often have detailed plans on how to achieve these goals (Curphy et. al., 1993). A moderate amount of this trait facilitates leadership effectiveness. A leader with too little achievement orientation is unlikely to focus the squadron on mission accomplishment or set difficult but challenging goals for the group causing the squadron to perform below their potential. However, a person dominated by achievement orientation is unlikely to be considerate and supportive. A leader that is very achievement oriented is more likely to micro-manage daily work and use less delegating behaviors (Miller & Toulouse, 1986). If workers sense that the leader is more concerned with task completion than with their welfare, they are likely to be less satisfied with the leader. Thus, too much achievement orientation reduces leader effectiveness.

Several studies have been conducted to determine the relationship between achievement orientation and leader effectiveness (see Bass, 1990). Of particular interest here is the inconsistency of findings from the studies. Some studies show a positive relationship between need for achievement and effectiveness (e.g., Stahl, 1983; Wainer & Rubin, 1969); others have found a negative relationship (House, Spangler, & Woyke, 1991), and some have discovered no significant relationship between the variables (Miller & Toulouse, 1986). One conclusion that can be drawn from these inconsistent results is that a curvilinear relationship may exist, such that the variables meaning that either too much or too little achievement orientation can be detrimental to leader effectiveness

(Yukl, 1994).

According to Yukl (1994) the research on behavioral correlates of achievement orientation is limited, but does suggest some possible relationships. For example, a leader who has a strong need for achievement is more likely to be a task-oriented leader who is who is quite proactive in searching out problems and is willing to assume responsibility for dealing with the challenges using appropriate problem solving techniques. These leaders will also be more likely to engage in planning activities by setting difficult but realistic goals for themselves and their subordinates. They prefer to take moderate amounts of risk in making decisions, and are adept at making action oriented plans to implement these decisions in an efficient, organized manner (Yukl, 1994).

If a manager's work motives are dominated by his/her need for achievement, negative consequences are likely. These managers risk alienating valuable workers and sources of information as they attempt to "run the show" alone. According to McClelland & Burnham (1976) and Miller & Toulouse (1986) these leaders try to do everything by themselves and hesitate to delegate the work. This results in a lack of commitment to the task, and the organization by the subordinates involved (Yukl, 1994). These leaders seem to be motivated by personal ambition and desire for individual success rather than the success of the group. This approach may undermine morale and unit cohesion resulting in less than effective leadership. Thus, need for achievement is predictive of leader effectiveness only to the degree that it is subordinate to a socialized power orientation (Yukl, 1994). This requires that a leader be more concerned with building a cohesive,

mission oriented team of responsible workers than with achieving personal career success.

Hypothesis 12: Leader credibility (integrity) is positively correlated with leadership effectiveness.

Credibility measures how responsible a person is. People scoring high on this trait tend to be true to their word and can be counted on to follow through with their commitments. A commander who is very responsible will do what is right regardless of peer pressure, which is quite strong at the Academy. As a result, a commander who is highly responsible will insure that his/her squadron is meeting the expectations set forth by the Academy. Subordinates are more likely to respond positively to a commander's authority if that commander has demonstrated his/her integrity through fair and consistent decision-making. It seems that credibility is the building block of trust and commitment within the authority structure. Commanders' known for keeping their promises and doing what is right should earn the trust and commitment of their subordinates. These commanders will likely be seen as truthful, dependable, and consistent. Thus, subordinates should always know that decisions made by the commander are based on what the commander perceives to be the right course of action. This should lead to positive ratings of effectiveness.

Hypothesis Linking Leader Personality and Leader Behaviors

Hypothesis 13: Leader achievement orientation is negatively correlated with delegating, supporting, and motivating behaviors.

As previously mentioned, a leader that is too high on this trait may believe that

he/she is the only one capable of doing the tasks required for organizational success (McClelland & Burnham, 1976; Miller & Toulouse, 1986). In this case, the leader may become overburdened and subsequently fail. Those leaders who are moderately high on this trait, however, may see the potential benefit of delegating in terms of time management, subordinate performance and development, improved decision quality and acceptance and perceptions of effectiveness.

A leader who is highly achievement oriented may choose to expend energy in pursuit of personal and organizational goals at the expense of the interpersonal relations with subordinates. For example, an achievement oriented leader may have little tolerance for subordinates' concerns if those concerns stand in the way of successfully completing a task. An achievement oriented person may also find it difficult to understand subordinates that do not share his/her enthusiasm for successful task completion. These leaders may use less motivating and inspiring behaviors because they assume subordinates are as intrinsically motivated as they are. Unfortunately this assumption is often untrue with regard to additional tasks not viewed as important for success at the Academy. The last thing a subordinate cadet wants is an additional duty or responsibility assigned by the squadron commander, especially when there is no reward for successfully completing the task. Finally, a squadron commander that is achievement oriented will try to do too much alone rather than delegating important responsibilities to subordinates.

In the case of the cadet commanders, it is likely that they have minimal appreciation for the benefits of delegating and supporting behaviors as they have occupied their leadership positions for such a short period of time. Many of them fall

into the trap of trying to do everything themselves rather than depending on their subordinates. This orientation naturally leads to ignorance of the need for delegating, supporting and motivating skills.

Hypothesis 14: Leader dominance is negatively correlated with supporting, motivating, and informing behaviors.

Leaders that score high on the dominance scale may be so self-confident that they see no need to be concerned with their subordinates' needs. At the extreme end of the continuum, these leaders may be classified as narcissistic. These leaders may coerce and manipulate subordinates and they are likely to use less supporting, informing, and motivating behaviors. They may rely solely on their own ability to insure success for the squadron. As a result, these leaders will most likely be lower in effectiveness.

Review of Research on the Effects of Leadership Training

It is widely accepted that training can have beneficial effects on leader effectiveness (Bass, 1990). A study by Alpander (1986) showed that more than 80 percent of first-level supervisors in 155 Fortune 500 companies are required to attend regular training programs. There are some skeptics such as Rice (1988) who believe that the benefits of leadership training are largely based on faith rather than empirical evidence. Latham, (1988) disagreed strongly with this view of leadership training and reviewed the empirical evidence for the effectiveness of several types of leadership training. Bass (1990) argued that much of the debate surrounding the effects and value of training is due to the disproportionate amount of literature describing the effects of training to the amount of training taking place. Many times the evaluation of training is

as simple as asking a participant how satisfied he/she is with the training experience. Researchers sensitive to the validity of training evaluation have been more rigorous in their measurement of the effects of training which has led to "...confidence in the theoretical underpinnings and factual substantiation of the conclusions reached (Bass, 1990, p. 817)." These conclusions are that training can be effective for changing the attitudes and behaviors of leaders.

There are many types of leadership training available today. Hultman (1984) suggested that training should be action oriented as most leaders have a bias for action. He further suggests that the training should be as specific to the leader's environment as possible. Anderson (1984) argued that leaders can be taught to identify the behaviors they engage in at work, which may either help or hinder their efforts toward reaching their goals. He goes on to posit that with proper training methods, they can be aided in their quest for self-understanding and development.

Conger (1992) categorized leadership training into four approaches: (1) Personal Growth Approaches, (2) Conceptual Approaches, (3) Feedback Approaches, and (4) Skill-Building Approaches. Conger points out that although each approach has its own strengths and weaknesses, all leadership training is lacking in several respects. He argues that simply making leaders aware of effective and ineffective behaviors is insufficient to cause actual behavior changes. Conger strongly advocated the need to lead, not just learn about leading. Additionally, he feels that inadequate time is given to training. Specifically, he suggested that short seminars that attempt to train leaders on all facets of effective behavior will be ineffective. He argued that training should focus on developing

a few leadership skills at a time.

In order to improve leadership training, Conger suggests that more leadership programs follow the example set by the LeaderLab program developed by Robert Burnside and Victoria Guthrie, at the Center for Creative Leadership in Greensboro, North Carolina. LeaderLab was developed on the notion that a one-time leadership training program is insufficient to cause lasting behavioral change. LeaderLab begins with a six-day course followed by a three month break after which the participants engage in a four-day follow-up session. The idea is for the participants to develop their skills, implement the changes back on the job, and then return for feedback and refinement. In addition, the multiple session approach creates more accountability for trainees by requiring them to report on their progress at the follow-up session. Another innovation in the LeaderLab training is the use of pre- and post-course contact with the "process advisor." This advisor makes telephone contact with the participant prior to the course, acts as a facilitator during the course, and maintains contact via telephone during the three-month break thereby providing a mechanism for continuing feedback and advice as the participants endeavor to implement leadership action plans created during the initial course. Post-course contact also serves as a reminder to the busy participants so that lessons learned during the initial course are not forgotten or placed on a "back-burner." Lastly, each participant has a coach (e.g. another trainee) who can provide encouragement for successes as well as failures.

Bandura (1977) argued that learning would be facilitated if trainees were exposed to behavioral role-models prior to attempting a specific behavior. Research suggests that

people are more likely to process and internalize information if they have a role-model to follow. He further suggests that if the model is someone respected and admired by the trainee, then learning from that role model will be increased. Care must be taken in the selection of the role models, however. In a study examining three different modeling interventions, Manz and Sims (1986) manipulated the style of leadership being modeled. The behaviors modeled included: contingent-reward leadership, contingent-reprimand leadership, and goal-setting leadership. The results showed that trainees changed their leadership styles more than people in the control group, but not always in positive ways. Those exposed to contingent-reward modeling tended to increase this type of leader behavior. However, trainees exposed to contingent-reprimand modeling increased reprimanding while also decreasing rewarding and goal setting. Trainees exposed to goal setting modeling increased reprimanding but not goal-setting behavior. The point is that a clear understanding of the theory behind the behavioral modeling must be present to prevent the possibility of negative learning.

In his review of research on leadership training, Bass (1990) suggested that several factors affect training outcomes. These include but are not limited to: (1) personal attributes of the trainees, (2) composition of the training group, (3) follow-up strategies, (4) behavior of the trainer, and (5) congeniality of the environment to which the person returns. Burke and Day (1986) conducted a meta-analysis of the results of 70 managerial studies to determine what effectiveness criteria might be the best to assess leadership training effects. They examined four types of criteria: subjective learning, objective learning, subjective behavior, and objective results. Subjective measures were

garnered from participant self-reports. Objective measures, however were obtained using independent measures of performance based on training. They concluded that subjective measures of learning and behavior were positive for general management, human relations, and self-awareness training. When the learning objectives were measured using objective criteria, positive effects were also found for all of the types of training analyzed

VanVelsor (1984) described what is needed for leadership training to be effective. Her conclusions were based on interviews of past participants of the Center for Creative Leadership's Leadership Development Program (LDP). The LDP targets middle to upper managers and is intended to aid in personal and professional leadership development. The program is largely assessment based, and is conducted at sites around the world. VanVelsor concluded: (1) that the organization must support the validity of what is being trained, (2) that the trainees must have the desire to participate in the training, (3) there must be a perceived need for the training, (4) the training should include relevant topics and provide time for peer interaction and feedback, and (5) there must be follow-up activities such as postsession debriefs, consultation, follow-on training as required, rewards and recognition for improvements, and maintenance of the training group.

In summary, research on leadership training finds that the effectiveness of this training depends on a variety of factors, including the content of the training, the training methods, and the conditions that facilitate or impede transfer of learned skills back to the leadership situation. Leadership training can be very effective or a complete failure depending on whether the training incorporates relevant skills, uses appropriate methods, and is supported by the organizational culture, reward system, and actions of supervisors.

Chapter III

Method

Design

This study is a correlational field study using 1) pre- and post-measures of leader behavior, 2) self-report measurement of personality traits, 3) a subordinate satisfaction and group performance assessment, and 4) a behavior training intervention. Since all cadet commanders received the behavior training, it was not possible to have a control group, thereby eliminating the possibility of an experimental design.

As Table 2 illustrates, the cadet commanders and selected subordinates responded to a behavioral questionnaire at the beginning of each semester, and again several weeks after a behavioral training intervention. Additionally, the cadet commanders and three of their key subordinates were given a personality measure at the beginning of each semester. Lastly, a leadership effectiveness survey was administered at the end of each semester to each commander and his/her subordinates. Only six of each commander's key subordinates rated him/her on the effectiveness survey, however.

Sample

The setting for the study was the USAF Academy in Colorado Springs, Colorado. The subjects were the eighty cadet squadron commanders selected to command during the 1993-1994 academic year (40 commanders in the fall semester of 1993 and 40 commanders in the spring semester of 1994). Cadet squadron commanders were senior cadets, chosen on the basis of their GPA, military performance average (MPA), athletic

ability, and a subjective rating given by the commissioned officer who is their commander (AOC). All cadet commanders must meet these specific criteria for selection, and thus the sample was a relatively homogeneous group in terms of experience, skills, knowledge, and abilities.

Analyses performed for this study were at the group level with a sample size of 80. Randomly chosen upper-class cadets (juniors and seniors) were requested to complete behavioral, and personality questionnaires at various times during the semester (see table 2). Of these respondents, the average age was 21.2 years, and the gender breakdown was 27 percent female and 73 percent male. The total number of respondents for the behavioral questionnaire was 2343 out of 3200 which was a response rate of 74 percent. These numbers can be further broken down into time-1 behavioral assessment for the fall semester (n = 417 out of 800 or 51%) and time-2 behavioral assessment for the fall semester (n = 638 out of 800 or 79%). Similarly, the spring semester numbers break down into time-one assessment (n = 561 out of 800 or 70%) and time-two assessment (n = 727 out of 800 or 90%). Both self-report and subordinate-report responses on the personality questionnaire were used for analyses. The response rate for the self-report version was 80 percent, (n = 64 out of 80), while the response rate for the subordinate-report version was 74 percent (n = 237 of 320). Lastly, the number of responses to the satisfaction/performance questionnaire was 306 out of a possible 400, which was a response rate of 76 percent.

Measure of Personality Traits

During the first two weeks of the fall semester of 1993, and spring semester of

1994, the eighty squadron commanders completed the USAF Academy's Leadership Development Survey (LDS) which is personality feedback instrument. The instrument is designed with both a self-report form and an subordinate-report form. The survey consists of 70 items describing various aspects of personality (see Appendix A). The questions related to each of the personality scales are randomly dispersed throughout the instrument. Response choices are based on a six-point Likert-type scale ranging from strongly agree to strongly disagree. The instrument consists of four main scales (personality dimensions) and 11 subscales. Each squadron commander completed the survey on him or herself, while three to five cadets that the commander felt could adequately and accurately perform the assessment filled out the observer form of the survey.

Measure of Behaviors

Approximately five weeks into each semester a revised (military) version of some scales from Yukl's Managerial Practices Survey (MPS) was administered to each cadet squadron. The behavioral scales chosen for this study were (1) planning and organizing, (2) informing, (3) motivating/inspiring, (4) supporting, (5) delegating, and (6) conflict management/team-building. Each scale consisted of between three and seven items (see Appendix B). The questions in a scale were clustered together in the instrument. The response choices were a four-point scale ranging from usually, (or to a great extent) to never, (or not at all).

I randomly selected 20 juniors and seniors from each squadron to assess their squadron commander on his or her perceived use of the specific leader behaviors that

were chosen for this study. I chose only upper-class cadets as I felt that freshman had no basis upon which to judge the squadron commanders simply because they were new to the military academy. Sophomores are transferred from one squadron to another after their freshman year. For these reasons I felt that the upper-class cadets would be in a better position to accurately assess the use of the behaviors in question by their respective squadron commander.

At around the eighth to ninth week in the semester, I readministered the MPS to 20 upper-class cadets from each squadron that had not completed the survey the first time. I chose this method specifically to avoid same source bias in the data. In both cases, I also asked the squadron commanders to complete the survey. Unfortunately, the return rate from the commanders was so low that no meaningful comparison could be made between self and subordinate reports of behavior.

Prior to administering the MPS scales at time-1 and time-2, the squadron commanders were assured of the confidentiality of the results. In addition, each commander was afforded the opportunity to receive individual feedback on the results of the survey. Oddly, not one of the cadet commanders desired to receive the behavioral feedback. The lack of response may be attributable to the fact that the cadets receive a tremendous amount of assessment-based feedback during their four years at the Academy. It is likely that they simply felt too overwhelmed by their daily duties to take time out of their schedules for "yet another feedback session."

Measure of Leadership Effectiveness

Near the end of the semester, the Academy administered the Leadership

Development Questionnaire (LDQ) which measures, among other things, subordinate satisfaction with the squadron, and the squadron commander, in addition to perceptions of the squadron's quality of performance, morale, and cohesiveness. Each squadron commander was rated by six of their key subordinates. I purposely eliminated the 240 cadets who responded to this questionnaire (6 cadets per squadron) from the MPS data at time-1 and at time-2 so as to further reduce any contamination of the measures due to same source bias. The measure of effectiveness was the mean score on two items in the LDQ (see Appendix C).

Description of Training

On the last weekend in August, 1993 and January 1994, the cadet squadron commanders received an intensive two-day leadership training/development seminar entitled the "Cadet Commanders' Leadership Development Seminar. The training focused on several of the specific behaviors identified in Yukl's taxonomy, including the six behaviors examined in this study. The training consisted of lecture, case-studies, experiential exercises, and role playing. For example, a lecture was given surrounding the issue of conflict management which was followed by a role-play exercise in which the commanders had to implement the techniques discussed in order to "solve" the problem. Commanders were given the opportunity to attempt to use the newly learned skills and then received feedback from trained facilitators. However, due to time constraints, few of the commanders were able to participate in a leadership role during the role-playing sessions, nor were they given a "model" to follow.

The training is held off-site which gives the cadets an opportunity to focus on

learning rather than getting swept-up into the daily tasks of the squadron. The training is conducted by Officers assigned to the military training division and the behavioral science and leadership department. Sessions range from lectures by senior level officers regarding issues of personal leadership experiences, military ethics, and decision-making, to more base-level discussions and exercises surrounding time-management and proper delegating techniques. Experiential exercises are frequently used to drive home the points discussed in lecture or group format. These exercises include things such as a tinker-toy communications problem where the one person is selected from the group to leave the room and view a "sculpture" created from tinker toys. That person must then return to the group and describe the object to the group so that they can attempt to duplicate it with their own set of building materials. Another exercise is the "stranded on the moon" problem where the cadets must prioritize a list of obscure items to be used in survival on the moon. This problem illustrates group dynamics, problem solving, conflict management, planning and organizing and supporting behaviors.

Throughout the two days, the cadets are challenged with contrived problems, real-world cadet wing problems and anecdotal situations that happened to officers in an attempt to get them to begin thinking like commanders. These challenges are intermingled with feedback surrounding the LDS, as well as assessment of each commander's group interaction during the exercises presented.

The Cadet Leadership Enrichment Seminar ends with an individual and group-level goal setting session where the commanders are encouraged to set difficult, yet achievable goals for their personal development and for their squadron's performance.

Throughout the semester the squadron commanders met one-on-one with the officers that gave them feedback during the course in order to keep track of progress toward the goals that they set. This is a powerful part of the program in that the cadets are held accountable for the goals they have set, and they are given the latitude necessary to implement most if not all of the goals.

CHAPTER IV

Results

Psychometric Results for the Scales

The means, standard deviations, inter-rater agreement and alpha coefficients for the behavior scales are shown in Table 3. The t-tests for differences in scale scores at time-1 and time-2 indicated that some of the differences were significant. There was strong stability demonstrated in the correlations between the behaviors at time-1 and time-2 which suggests that the training intervention had little effect on the cadet commanders (see table 8).

The means, standard deviations and alpha coefficients for the personality scales are shown in Table 4. The internal consistency reliability of each scale was high. Inter-correlations among the behavior scales, both premeasure and postmeasure, are shown in Table 5. These correlations range from .51 to .87 demonstrating some significant overlap between the scales. Table 7 highlights the inter-correlations between the personality scales. These scales did not correlated nearly as highly as did the behavior scales.

The most appropriate and commonly used measure of interrater reliability is the intraclass correlation (Shrout & Fleiss, 1979; Tinsley & Weiss, 1975). Intraclass correlations are technically interpreted as the proportion of total rating variance due to the variance in the persons being rated, but they are probably better understood as measures of the extent to which a score is determined by the person being rated rather than the idiosyncrasies of the observers completing the ratings. This study reports the mean

scores on the MPS for each commander so the reliability of these mean scores is of interest rather than the reliability of single observers. The appropriate intraclass correlation for this study is equal to:

$$\frac{\text{Between Case Mean Square - Within Case Mean Square}}{\text{Between Case Mean Square}}$$

Intraclass correlations for the six MPS scales are reported in Table 3. Observer ratings have adequate interrater reliability with intraclass correlations ranging from .52 to .91.

Leadership Behavior and Effectiveness

The analysis of relationships between leader behavior and effectiveness were done at the group (squadron) level. Table 7 summarizes the correlations between the behavioral variables and the criterion variable. Hypotheses 1-6 stated that the six behaviors (planning/organizing, motivating/inspiring, informing, supporting, conflict management/team building, and delegating) were positively correlated with effectiveness. The results were supportive of the hypotheses. Four of the behaviors measured at time-1 were correlated with effectiveness; at time-2 all of the behaviors were significantly related to effectiveness. The postmeasure provides a much better test of the hypotheses because the premeasure occurs too early in the semester.

Table 7 also reported the results of a multiple regression analysis which examined the amount of variance accounted for by each of the behavior variables. Only two of the six behaviors had significant beta weights (conflict management/team-building, and motivating/inspiring behaviors). Together, they accounted for a the multiple R of .44.

Personality and Effectiveness

Not only were the personality variables not significantly related to the behavior variables, there were few that showed a significant relationship with the criterion measure. As described earlier, the criterion variables were collapsed into a meaningful composite variable labelled effectiveness. When the personality subscales were correlated with the criterion variable, there were only two statistically significant relationships found in the self-report and four in the subordinate-report (see Table 9). The table shows that for self-report measures of personality, the dimensions of dominance and credibility were negatively and significantly correlated with the effectiveness criterion variable $p < .05$. For the subordinate-report personality measure, dominance, credibility, achievement orientation and conservatism all correlated negatively with effectiveness ($p < .05$). These results support Hypothesis 11 which stated that achievement orientation is negatively correlated with leader effectiveness.

Leader Personality and Behavior

The original theme of this research was to show that personality traits were strongly related to behaviors, and considered together, would present a stronger predictor of leader effectiveness. The results of this study, however, did not support that notion. In fact, by examining the correlation table between behaviors and personality traits, it is clear that the relationships, as measured by this study, are weak at best (see Table 10). In terms of postmeasure behavior correlations with personality scales, achievement, and organization were the only two personality scales significantly (negatively) correlated to leader behaviors ($p < .01$) using the self-report personality measures. Some improvement

in results were observed using the subordinate-report of personality, however. Achievement orientation, dominance, conservatism, organization, and credibility were all negatively correlated with a few of the behaviors measured in this study (see Table 10). Thus, Hypothesis 13 suggesting the negative correlation between achievement orientation and delegating, supporting, and motivating behaviors was supported. Hypothesis 14, stating that dominance is negatively correlated with supporting, motivating, and informing behavior was also supported.

Evaluation of Leadership Training

A secondary issue that I wished to examine while doing this research was the impact of the leadership training programs at the Academy. Table 8 shows the correlations between the behaviors as measured before and after the training intervention. All of the behaviors remained stable from time-1 to time-2 as indicated by the significant correlations between these behaviors ($p < .05$). Correlated t-tests were run to determine if significant changes had occurred in the behaviors from time-1 to time-2. The results shown in Table 8 do not support the conclusion that training increased any of the behaviors.

Chapter V

Discussion and Conclusions

Leader Behavior and Effectiveness

As predicted, the zero order correlations indicated a strong relationship between each of the six leader behaviors examined and the effectiveness criterion. This finding is consistent with previous research on the relationship of leader behavior and leadership effectiveness (see Yukl, 1994). However, in the multiple regression analysis only two of the six behaviors had significant beta weights. The two behaviors were motivating and team building.

It appears that the high correlations among the behaviors caused a majority of the available variance to be accounted for by two rather than six behaviors. The MPS scales are usually moderately inter-correlated, however not to this degree. The high inter-correlations may be due to an extreme case of halo effect in the responses by the commanders' subordinates. Whatever the cause, it was difficult to interpret the results for the behavior scales. The behavior with the highest beta weight was motivating and inspiring. This leader behavior has been found to be strongly predictive of leader effectiveness in previous studies of military leaders (e.g., Yukl & VanFleet, 1982), in most previous studies using the MPS (Kim & Yukl, 1994; Yukl et al., 1990), and in most studies on transformational leaders (see Yukl, 1994).

Training Evaluation and Implications

The study found no indication that the training currently given to cadet squadron commanders is having any impact on their behavior. There are some plausible

explanations for the lack of a significant effect of training. First, the training given to the cadet commanders seems to lack substance. An inordinate amount of time is spent on making cadets feel good about their selection to command rather than on basic skill-building. The cadets need exposure to more skill enhancing exercises along with role models that they can emulate. Additionally, behavior models (such as Yukl's multiple linkage model) can be useful for developing a deeper understanding of the relationships between traits, behaviors and situations. Currently, the Academy does not emphasize basic skill building approaches to leadership development. The exercises currently in place do not afford adequate time for the cadets to practice and internalize the skills that are desired. If the Academy wishes to be successful at developing leaders, it must supplement classroom training with activities that allow time for cadets to practice newly learned skills. All too often, however, time is wasted pontificating about the lofty ideals the institution desires of its commanders. Educating the cadets about the expectations the Academy has for them is important, but by itself it is unlikely to help cadets develop as leaders. A combination of classroom education, role-modeling, and skill development through practice would be a far better approach.

Another possible explanation for the lack of a significant training effect might be that the cadets simply did not have the time required to develop these skills. Skill acquisition and mastery does not occur without time and practice. Given the weakness of the training method it may be unrealistic to suggest that the commanders' behavior would change in any measurable way in a single semester. It is possible that the cadets are simply too busy dealing with day-to-day tasks to think about applying any new

administrative skills they've learned. Whatever the reason, if the Academy wishes to develop better leaders, it must address the shortcomings in its leadership training programs.

Leader Personality and Effectiveness

Contrary to expectations, few of the trait measures were related to effectiveness for the squadron commanders in this study. In the correlational analysis, only a small number of significant correlations were found which was surprising given substantial earlier research on the relevance of traits for effectiveness. It was interesting to note that subordinate reports of personality traits were significantly correlated to effectiveness more often than the self reports. This is consistent with research showing that observers are generally more accurate in assessing a leader on his/her personality and behavioral patterns.

The results of the multiple regression analysis also demonstrated the weak relationship between personality and effectiveness. The minimal variance accounted for by personality may be due to the poor quality of the assessment instrument. Previous research suggests that a stronger link exists (Hogan, 1991).

It is difficult to interpret the results for personality due to the poor quality of the instrument. Perhaps with better personality predictor measures, stronger relationships could be demonstrated between personality and effectiveness. It should be noted that while not all of the hypotheses (hypotheses 8-10) received statistically significant support, the direction of the relationships between the traits and leadership effectiveness was substantiated.

Leader Personality and Behavior

There were few significant relationships found between personality and behavior, however those that were significant were consistent with previous research (see Yukl, 1994). The strongest relationship was found between achievement orientation and four of the behaviors (motivating, supporting, delegating, and conflict management). Each of these behaviors was negatively correlated with achievement orientation. Perhaps the drive for achievement causes some people to ignore the necessity of maintaining interpersonal relationships. They may be consumed by attending to the demands of their work, and by the desire to maintain absolute control over every facet of that work. As a result, others in the organization may feel left out, unappreciated and under-valued.

The lack of significant relationships was somewhat surprising as previous research has demonstrated links between personality and leader behavior. As with the link between personality and effectiveness, these weak results may be due to the validity of the instrument used.

Limitations of the Research

One hindrance to the research was that the cadets are used mercilessly as survey targets and are less than enthused at the prospect of filling out yet another instrument. Lack of cooperation from the respondents (both self and observer) may account for high halo effect in behavior ratings. The level of suspicion that pervades the cadets is quite difficult to overcome. If the cadets (commanders and subordinates) believed that giving high ratings on the various measures would somehow benefit them , then it is quite

possible that this problem may have inflated the resulting scale scores. For example, a subordinate may have felt that giving his/her squadron commander high marks on the various behavior scales might lead to preferential treatment in the future.

Another potential problem was the short term of office for the leaders in this study. Four months is a brief period in which to learn, develop, and implement behavioral skills. This lack of time may account for the weak relationship found between behavior and effectiveness. Additionally, the subordinate cadets who rated their squadron commander had limited opportunity to observe leader behaviors. Even though the cadets live together in their squadron, the actual interaction they have with the squadron commander varies based on the subordinates' positions within the squadron. For this reason, it is plausible that not all of the respondents would be in a position to observe the commanders' behaviors on a regular basis.

The high inter-correlations between behaviors, and the lack of significant results for the hypotheses linking personality to effectiveness may be indicative of implicit leadership theory at work (Rush, Thomas, & Lord, 1977). The cadets are continuously exposed to the Academy's ideal of leadership which may bias them toward an implicit model of leadership effectiveness. If a cadet commander embodies many of the characteristics linked to the Academy's model of leadership, then subordinates will likely perceive that commander as effective. The cadets' implicit understanding of leadership, however, may bias them toward attributing effectiveness to a commander who may not be effective at all. In reality, the commander may have few of the personality traits and engage in few of the behaviors known to be associated with effectiveness.

Another major problem was in the requirement to use the Leadership Development Survey as the measure for personality. The poor results for tests of personality hypotheses may be due to the poor psychometric properties of the LDS. The validity of the instrument is highly questionable because no studies were done to assess concurrent validity, content validity or criterion-related validity. The LDS should be rigorously tested and compared to existing measures of personality that have been subjected to multiple validity checks.

Lastly, lack of clearly definable basis for evaluation of squadron and squadron commander performance may affect the validity of the criterion. The criterion chosen for the study was somewhat weak in that it was a perceptual assessment of the squadron's performance and morale as opposed to some quantifiable measure of squadron performance.

Future Research Needs

To evaluate the effects of leadership training at the Academy, systematic training experiments are needed. For example, a study could be designed with three treatments: traditional classroom training, behavioral role-modeling training, and experiential training outside the classroom. Various combinations of treatments could be compared with respect to changes in behavior after training and leadership effectiveness. Additionally, longitudinal studies on learning of skills and behavior should be done. For example, skill training and behavioral assessment should be done as soon as the cadets enter the Academy. A comparison of the skill levels and behaviors could be made a various times over the four years at the Academy to better determine the effects of the

training. Follow-up studies could be conducted also as the cadets pursue their careers as officers to determine the transfer of learned behaviors and skills into the operational Air Force.

The military is spending millions of dollars annually to develop effective leadership development programs. Research should be conducted to determine the effects of the training. Transfer of trained skills needs to be accurately measured and documented to assess the long-term effects of training on leader effectiveness.

Lastly, more qualitative research, (e.g., critical incident, long interviews, observational) should be done in order to gain insight into some of the processes underlying successful leadership. Often, the rich data gathered by interviewing successful leaders can provide important information that cannot be conveyed in a survey or other research methods. If one could obtain detailed information on a number of Academy graduates over an extended period of time, great insight could be gained into the activities, thoughts and actions of these leaders.

Table 1

Definition of Managerial Practices In Yukl's Integrating Taxonomy

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Networking: Socializing informally, developing contacts with people who are a source of information and support and maintaining relationships through periodic interaction, including visits, telephone calls, and correspondence, and attendance at meetings and social events.

Supporting: Acting friendly and considerate, showing sympathy and support when someone is upset, listening to complaints and problems, looking out for someone's interests, providing helpful career advice, doing things to aid someone's career advancement.

Managing conflict and team building: Encouraging and facilitating constructive resolution of conflict, fostering teamwork and cooperation, and building identification with the organizational team or unit.

Motivating and inspiring: Using influence techniques that appeal to emotions, values, or logic to generate enthusiasm for the work and commitment to task objectives, or to induce someone to carry out a request for support, cooperation, assistance, resources, or authorization; also, setting an example of proper behavior by one's own actions.

Recognizing: Providing praise, recognition for effective performance, significant achievements, and special contributions; expressing and appreciation for someone's contributions and special efforts.

Rewarding: Providing or recommending tangible rewards such as a pay increase or promotion for effective performance, significant achievements, and demonstrated competence.

Planning and organizing: Determining long-range objectives and strategies for adapting to environmental change, identifying necessary action steps to carry out a project or activity, allocating resources among activities according to priorities, and determining how to improve efficiency, productivity, and coordination with other parts of the organization.

Problem solving: Identifying work-related problems, analyzing problems in a systematic but timely manner to determine causes and find solutions, and acting decisively to implement solutions and deal with crises.

Consulting: Checking with people before making changes that affect them, encouraging suggestions for improvement, inviting participation in decision making, incorporating the ideas and suggestions of others in decisions.

Delegating: Allowing subordinates to have substantial responsibility and discretion in carrying out work activities, handling problems, and making important decisions.

Monitoring: Gathering information about the progress of work activities and external conditions affecting the work, checking on the progress and quality of the work, evaluating the performance of individuals and the organizational unit, analyzing trends and forecasting external events.

Informing: Disseminating relevant information about decisions, plans, and activities to people who need it to do their work, providing written materials and documents, answering requests for technical information, and telling people about the organizational unit to promote its reputation.

Clarifying roles and objectives: Assigning tasks, providing direction in how to do the work, and communicating a clear understanding of job responsibilities, task objectives, deadlines, and performance expectations.

Developing and mentoring: Providing coaching and helpful career advice, and doing things to facilitate a person's skill acquisition, professional development, and career advancement.

Source: Yukl, 1994.

Table 2

Measures, Sources and Times of Administration

Time 1 (Pre-Training) 5-weeks into the semester	
Cadet Squadron Commanders	*Subordinate Cadets*
Leadership Development Survey Survey	Leadership Development Survey
MPS	MPS
Time 2 (Post-Training) 10-weeks into the semester	
Cadet Squadron Commanders	*Subordinate Cadets*
MPS	MPS
Time 3 (end of Semester)	
	Subordinate Cadets
	LDQ (criterion)

Table 3

Reliability Coefficients and Inter-rater agreement for the Behavioral Scales and Criterion

Leader Behavior	N items	Premeasure Alpha	Premeasure Intraclass r	Postmeasure Alpha	Postmeasure Intraclass r
Planning/Organizing	4	.75	.88	.80	.52
Informing	5	.72	.84	.82	.89
Motivating/Inspiring	6	.78	.91	.83	.77
Supporting	5	.81	.54	.83	.54
Conflict Management	3	.82	.84	.84	.58
Delegating	5	.80	.68	.84	.77

Criterion	N items	Alpha	Intraclass r
Leader Effectiveness	3	.90	.86

Note: N = 2343 cadets for behavior measures; N = 216 for criterion.

Table 4

Means, Standard Deviations, Intra-class correlations and Reliability Coefficients for the Personality Scales

		Self-Report				Subordinate Report				
	N of items	Alpha	Mean	SD	Intraclass r	Alpha	Mean	SD	Intraclass r	Self/Sub r
Dominance	5	.70	5.01	.62	.74	.77	5.23	.71	.88	.24*
Sociable	6	.77	3.75	.92	.63	.82	3.81	.67	.76	.17*
Achievement	6	.74	4.77	.59	.81	.76	4.87	.83	.62	.08
Conservative	3	.62	4.78	.80	.77	.67	4.89	.75	.89	.31*
Organized	4	.73	4.11	.97	.59	.78	4.08	.62	.67	.14
Credible	5	.78	5.40	.44	.83	.83	5.56	.77	.53	.27*
Friendly	4	.73	4.48	.79	.65	.76	4.57	.84	.78	.12
Empathy	3	.65	4.63	.74	.73	.69	4.37	.79	.85	.23*
Likeable	3	.80	4.77	.82	.54	.88	4.93	.73	.66	.11*
Emot. Stab.	3	.62	3.31	.92	.72	.68	3.45	.76	.86	.09
Self-Accept	3	.68	2.79	.68	.75	.75	2.92	.61	.79	.15*

N = 61 leaders

** $p < .01$ (1-tail test of significance)

Table 5

Inter-correlations among the Leader Behaviors

	Plan	Info	Mot	Supp	Dele	Cm/Tb
Planning		.74**	.73**	.51**	.59**	.71**
Informing	.57**		.83**	.67**	.76**	.87**
Motivating	.64**	.69**		.65**	.70**	.82**
Supporting	.58**	.59**	.68**		.63**	.73**
Delegating	.55**	.64**	.69**	.64**		.76**
Conflict Mgt.	.55**	.70**	.75**	.77**	.69**	

N = 2343

Note: Results for the premeasure are in the lower left quadrant, and the results for the postmeasure are in the upper right quadrant.

Table 6

Inter-correlations between Self-Report Personality Variables

	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11
1. Dominance											
2. Sociable	.29*										
3. Achieve.	.41**	.14									
4. Conserve	.34*	-.25	.39**								
5. Organize	.21	.01	.38**	.21							
6. Credible	.50**	.09	.41**	.29*	.12						
7. Friendly	.02	.01	-.03	-.06	-.05	.31*					
8. Empathy	-.03	.08	-.19	-.08	-.10	.16	.39**				
9. Likeable	.19	.44**	.01	-.21	-.09	.22	.51**	.40**			
10. EmotStab	-.14	-.16	.07	.08	-.00	.13	.21	.01	.05		
11. SelfAcpt	-.02	.14	-.01	-.07	-.31*	.25	.31*	.26	.37*	.28	

N = 61 leaders

* $p < .05$ (2-tailed test)

** $p < .01$

Table 7

Correlation of Leader Behavior with Effectiveness

Leadership Behavior		Postmeasure	
	r	beta	F
Planning	.26*	.08	1.32
Informing	.38**	.14	2.47
Motivating	.38**	.40	14.65**
Supporting	.24*	.18	3.59
Delegating	.23*	.11	2.03
Conflict Mgt.	.38**	.32	12.73**

N = 64 squadrons

Multiple R = .44

* $p < .05$ (1-tail test)

$R^2 = .16$

** $p < .01$

F = 16.47**

Table 8

Comparison of Behavior Scores Before and After Training

Leadership Behavior	Premeasure Mean	SD	Postmeasure Mean	SD	r pre/post	t
Planning	2.76	.33	2.80	.35	.37**	-.92
Informing	3.11	.27	3.07	.32	.61**	1.47
Motivating	3.07	.33	3.02	.37	.70**	1.69
Supporting	2.77	.38	2.81	.39	.55**	-.92
Delegating	3.04	.39	3.04	.39	.60**	-.21
Conflict Mgt.	2.99	.35	2.98	.35	.68**	.36

N = 64 squadrons

* $p < .05$ (1-tail test)

** $p < .01$

Table 9

Correlations between Leadership Effectiveness and Two Sources of Leader Personality Ratings

	Self Report			Observer Data		
	r	beta	F	r	beta	F
Dominance	-.19*	.05	1.58	-.23*	.08	1.98
Sociable	.11	.01	.53	.18	.02	.64
Achievement	-.14	.11	1.74	-.21*	.07	1.86
Conservatism	-.16	.02	.66	-.19	.06	1.69
Organized	-.04	.07	1.81	-.09	.03	.78
Credible	-.22*	.10	2.18	-.27*	.14	2.47
Friendly	-.02	.02	.63	-.06	.03	.75
Empathy	.14	.07	1.92	.17	.09	1.32
Likeable	.03	.02	.61	.07	.01	.44
Emotional Stability	.05	.05	1.49	.11	.08	1.92
Self-Acceptance	.09	.06	.98	.16	.07	1.08

N of cases: 61 squadrons (self report); N =61 (observer report composite scores)

* $p < .05$ (2-tail test) Multiple R = .16 F = 3.87

$R^2 = .04$

Table 10

Correlations Between Self and Subordinate Ratings of Leader Personality and the Postmeasure of Leader Behavior

		Planning	Informing	Motivating	Supporting	Delegating	Conflict Mgt
Domin.	sub	.23	-.20	-.11	-.33*	-.15	-.21
	self	.21	-.16	-.07	-.27	-.14	-.16
Sociable	sub	-.12	-.06	.14	.05	.11	-.13
	self	-.05	-.00	.06	.01	.06	-.02
Achieve	sub	-.16	-.26	-.31*	-.34*	-.35*	-.36*
	self	-.23	-.21	-.28	-.29*	-.32*	-.29*
Conserv.	sub	-.17	-.19	-.23	-.31*	-.12	-.28
	self	-.12	-.21	-.17	-.28	-.07	-.24
Organize	sub	-.21	-.27	-.19	-.33*	-.37*	-.38*
	self	-.15	-.24	-.25	-.36*	-.32*	-.31*
Credible	sub	-.23	-.32*	-.28	-.33*	-.27	-.35*
	self	-.20	-.28	-.24	-.27	-.22	-.28
Friendly	sub	-.09	-.11	-.06	.16	.08	.07
	self	-.07	-.05	-.05	.18	.04	.04
Empathy	sub	.08	-.12	.14	.17	-.15	.06
	self	.02	-.08	.04	.07	-.10	.01
Likeable	sub	.09	.18	.11	.23	.19	.16
	self	.05	.13	.14	.15	.11	.08
EmoStab	sub	-.13	-.15	.11	-.18	-.06	-.12
	self	-.06	-.04	.02	-.11	-.01	-.07

N of cases: 64 squadrons

* $p < .01$ (2-tail test)

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Appendix A

LDS Scales with Sample Items

Emotional Stability

I remain cool and calm when in pressure situations.
I remain calm when deadlines approach.
I do not become frustrated when things are not going my way.

Self Acceptance (emotional maturity)

I take personal criticism well.
I rarely take things personally.
I do not dwell on personal failures.

Achievement Orientation

I set high goals for myself and meet them.
I persist on tasks until they are completed.
I use my time and resources wisely.

Conservatism

I rarely get into trouble.
I usually do not break the rules.
I believe that people who break the rules should be punished.

Credibility (integrity)

I always keep promises.
I practice what I preach.
I can be counted on to get the job done.

Dominance (self-confidence)

I have a high level of self-confidence.
I like having responsibility for others.
I have a high level of self-esteem.

Sociability (need for affiliation)

I get energized by being around others.
I like to tell jokes and stories at parties.
I spend more time with others than with my self.

Organization

I usually make daily to do lists.
I am a neat and fastidious person.
I like making detailed plans and milestones for projects.

Friendliness

I am usually in a good mood.
I am an optimist.
I am an easy going person.

Empathy

I am a charitable person.
I am a sympathetic person.
I am concerned about others' feelings.

Likability

I am a popular person.
I am accepted by my friends.
I have a large group of friends.

Appendix B

Adapted MPS Instrument for Military Leadership Behavior

INSTRUCTIONS

This questionnaire is designed to provide feedback to your cadet squadron commander regarding his/her use of specific leadership behaviors, as well as possession of certain personality traits. Your cadet squadron commander will receive a report that averages your ratings with other cadets who will also rate him/her.

The purpose of this survey is to improve leadership training. Please be as careful and accurate as you can in your responses. Try to think about each behavior/personality trait separately, and do not allow your answer for one type of behavior or trait to influence you answer for another type.

The response choices for each item are as follows:

4 Usually, or to a Great Extent

3 Sometimes, or to a Moderate Extent

2 Seldom, or to a Small Extent

1 Never, Not at all

? Don't know or Not Applicable

Note:

1. Write the response you select on the line next to the item.

2. Your responses and identity will remain anonymous!

3. The results of the survey will not be used to compute MPAs. They will be used to validate the USAFA leadership training programs, as well as provide feedback to your cadet commander only.

4. Your participation is vital! Accurate completion of this form will insure valid feedback information is available for your cadet commander.

5. Please return the completed form to your squadron CTO No Later Than Friday, 13 Nov 93.

Planning and Organizing

1. Plans in detail how to accomplish a major mission or project (identifies the sequence of necessary action steps, then determines when each should be done and by whom).

2. Plans how to organize squadron activities so that cadets, equipment, and facilities are utilized in an efficient manner.

3. Makes contingency plans to deal with potential problems that could disrupt squadron operations or jeopardize an important task or project.

4. Plans improvements in procedures for conducting squadron operations.

Informing

5. Explains the reasons why he/she is asking you to do something.

6. Clearly explains a new policy, rule, or procedure that has been established for the squadron.

7. Promptly informs you about important new developments or decisions that affect you.

8. Provides a detailed briefing to explain the objectives, plans, and procedures for an important activity or project.

9. Explains the nature of a problem, tells people what is being done about it, and keeps people informed with timely briefings.

Motivating/Inspiring

10. Explains the importance of a new activity, or project in an enthusiastic way.

11. Communicates a clear and appealing vision of what the squadron could accomplish or become if people make a committed effort.

(Copywrite: Gary A. Yukl, 1991)

12. Says things to make you feel proud to be a member of the unit.

13. Appeals to values such as patriotism, pride, honor, and loyalty to the squadron when asking subordinates to make a special effort to accomplish an important task or mission.

14. Sets an example in his/her own behavior of dedication, courage, honor, and self-sacrifice.

15. Is willing to share hardships with subordinates in difficult times rather than enjoying the privileges of rank.

Supporting

16. Is sympathetic and supportive when you are worried or upset about something.

17. Takes the time to listen when you have problem or complaint.

18. Makes a special effort to help you with a personal problem.

19. Backs you up and supports you in a difficult situation.

20. Takes time to get to know the subordinates in his/her squadron (remembers each person's name and knows something about the person's background, interests, family, etc.).

Delegating

21. Asks you to take responsibility for an activity, then lets you handle it your own way without interfering.

22. Encourages you to show initiative and determine for yourself the best way to carry out an assignment.

23. Presents a policy or strategy in general terms, and then asks you to determine specific action steps for implementing it.

Conflict Management/Team-Building

24. Encourages cooperation and teamwork among people who depend on each other to get the work done.

25. Encourages frank and open discussion of a disagreement.

26. Attempts to resolve disagreements in a constructive manner (e.g., by mutual problem solving, without unnecessary arguing).

27. Tries to understand your point of view when there is a disagreement (e. g., listens carefully, asks questions, doesn't rush to refute each point you make, summarizes your position to check for understanding).

28. Proposes a reasonable compromise to resolve a disagreement.

Appendix C

Criterion Items Selected from the Leadership Development Questionnaire

1. How would you rate the level of morale in your squadron?

2. What do you perceive to be the quality of performance by your squadron?

Note: items were answered on an 11-point Likert-type scale with a score of one being "poor" and a score of 10 being "outstanding." A score of 11 was a "does not apply" response.